Shaughnessy No.: 099101

Date Out of EFGWB: OCT 13 1989

TO: P. Hundemann
Product Manager #74
Registration Division (H7505C)

FROM: Emil Regelman, Supervisory Chemist
Environmental Chemistry Review #2
Environmental Fate and Groundwater Branch/EFED (H7507C)

THRU: Hank Jacoby, Chief (Acting)
Environmental Fate and Groundwater Branch
Environmental Fates and Effects Division (H7507C)

Attached, please find the EFGWB review of:

Reg./File #(s): 352-377

Common Name: Benomyl

Chemical Name: Methyl-1-(butylcarbamoyl)-2-benzimidazole

Type of Product: Fungicide

Product Name: Benelate, Tersan 1991, Benex

Company Name: E.I. duPont de Nemours & Co.

Purpose: Anaerobic aquatic metabolism (162-3) study

Date Received: 8/3/89 Action Code: 660

EFGWB #(s): 90702

Total Reviewing Time: 0.50

Deferrals to: _____ Ecological Effects Branch/EFED

_____ Science Integration & Policy/EFED

_____ Non-Dietary Exposure Branch/HED

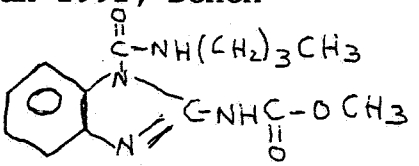
_____ Dietary Exposure Branch/HED

_____ Toxicology Branch I/HED

_____ Toxicology Branch II/HED

1. CHEMICAL:
Common Name: Benomyl
Chemical Name: Methyl-1-(butylcarbamoyl)-2-benzimidole
Type of Product: Fungicide
Trade Name: Benelate, Tersan 1991, Benex

Chemical Structure:



2. TEST MATERIAL:
Phenyl labeled (^{14}C)-benomyl (specific activity = 21.6 uCi/mg, radiochemical purity = 97%)

3. STUDY/ACTION TYPE:
Anaerobic aquatic metabolism (162-3) study.

4. STUDY IDENTIFICATION:

MRID #41137700
Arthur M, Marsh B, Fadel L, and Zwick T. 1989. Anaerobic aquatic metabolism of [phenyl(U)-^{14}C]benomyl in West Jefferson, Ohio, pond water and sediment. Completed on January 31, 1989 by Batelle Columbus Division. Batelle Project #NO799-8800. Submitted by E.I. du Pont de Nemours and Company. DuPont Report #AMR-770-87.

5. REVIEWED BY:
Henry Nelson, Ph.D., Chemist
Environmental Chemistry Review Section #2
Environmental Fate and Groundwater Branch/EFED
H Nelson
Date: 10/10/89

6. APPROVED BY:
Emil Regelman, Supervisory Chemist
Environmental Chemistry Review Section #2
Environmental Fate and Groundwater Branch/EFED
Date: OCT 13 1989

7. CONCLUSIONS:
The anaerobic aquatic metabolism study (MRID #41050001) is being returned unreviewed to RD as per Policy Note #31.

8. RECOMMENDATIONS:
Please send the study back to EFGWB for review along with other submitted studies when a second round review is scheduled for benomyl

9. BACKGROUND:

Benomyl is a fungicide registered for use on a variety of food crops including rice, soybeans, apples, oranges, peaches, and pecans. Application rates for benomyl range from 0.0625 to 1.5 lb ai/acre.

The current status of environmental fate data requirements for registering benomyl end-use products for application to terrestrial food crops and rice is as follows:

(1) Satisfied
161-1. Hydrolysis
161-2. Photodegradation in Water
161-3. Photodegradation on Soil
165-4. Accumulation in Fish

(2) Not Satisfied
162-1. Aerobic Soil Metabolism
162-2. Anaerobic Soil Metabolism
162-3. Anaerobic Aquatic Metabolism
162-4. Aerobic Aquatic Metabolism
163-1. Leaching and Adsorption/Desorption
164-1. Terrestrial Field Dissipation
164-2. Aquatic Field Dissipation
165-1. Confined Accumulation in Rotational Crops
165-3. Accumulation in Irrigated Crops

(3) Reserved
164-5. Long Term Terrestrial Field Dissipation
164-5. Long Term Aquatic Field Dissipation
165-2. Field Accumulation in Rotational Crops

(4) Waived
163-2. Laboratory Volatility
163-3. Field Volatility

10. DISCUSSION:

A registration standard was published for benomyl in 1987. Under policy note #31, studies submitted in response to a Registration Standard are normally retained by PMSD until a Second Round Review is scheduled. Benomyl is not in Special Review, and is not currently undergoing any other type of review within OPP according to RD.

11. COMPLETION OF ONE-LINER:
Not applicable.

12. CBI INDEX:
Not applicable.